WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

attribute information generation means for generating attribute information indicating an attribute of an image in correspondence with a command that represents the image;

bitmap data generation means for generating bitmap image data by rendering the command; and

image processing means for performing an image process of the bitmap image data in accordance with the attribute information,

wherein attribute information at an overlapping position of first and second images in accordance with the command is determined in accordance with attribute information of the first image and attribute information of the second image.

2. The apparatus according to claim 1, wherein the image process is a resolution converting process.

3. The apparatus according to claim 1, wherein said bitmap data generation means generates bitmap image data by overwriting a rendered bitmap image.

4. The apparatus according to claim 1, wherein the image process is at least one of a dither process and UCR process.

5. The apparatus according to claim 1, wherein the image process is one of a filter process and compression process.

6. The apparatus according to claim 1, wherein the attribute information at the overlapping position of the first and second images is determined by one of an AND, OR, overwrite priority, and background priority using the attribute information of the first image and the attribute information of the second image.

7. The apparatus according to claim 1, further comprising one of laser print means and ink-jet print means for printing the image that has undergone the image process.

8. The apparatus according to claim 1, wherein the attribute information is generated for each pixel and has at least one of vector, character, and color attributes.

9. An image processing apparatus comprising:

discrimination means for discriminating a type of object to be rendered;

determination means for determining the presence/absence of synthesis of the discriminated object;

synthesis means for synthesizing an object and information of the type of object in accordance with the determination result; and

processing means for appending information
indicating the type of synthesized object to a rendering
result obtained by rendering the object to be rendered
in units of pixels.

5   10.   The apparatus according to claim 9, wherein the
type of object to be rendered includes information
indicating if an object is a bitmap or a vector graphic.

11.   The apparatus according to claim 9, wherein the
type of object to be rendered includes information

10   indicating if an object is a color or monochrome object.

12.   The apparatus according to claim 9, wherein the
type of object to be rendered includes information
indicating if an object is a character or an object
other than the character.

15   13.   The apparatus according to claim 9, wherein the
type of object to be rendered includes information
indicating if an object is a tone or resolution priority
object.

14.   The apparatus according to claim 9, further

20   comprising image processing means for performing an
image process of data of the rendering result in
accordance with the information of the type of object.

15.   The apparatus according to claim 14, wherein the
image process includes a binarization process, filter

25   process, and black character extraction process.

16.   The apparatus according to claim 15, wherein the image process outputs rendered data using black alone when it is determined in accordance with information of the object that the object is a black character.

5   17.   The apparatus according to claim 9, wherein said synthesis means synthesizes the object in accordance with one of synthesis modes including or, and, xor, and α blend.

18.   The apparatus according to claim 9, wherein the

10   synthesis is inhibited upon receiving an inhibition command of the synthesis process.

19.   The apparatus according to claim 18, wherein the inhibition command is input by a printer driver of a host computer connected to said image processing

15   apparatus.

20.   The apparatus according to claim 9, wherein the synthesis is done for at least two different objects.

21.   An image processing apparatus for processing and outputting input image data, comprising:

20   input means for inputting image data composed of a plurality of objects;

        rendering means for rendering the objects into bitmap image data;

        generation means for generating attribute map

25   information indicating a configuration of the bitmap image data on the basis of the bitmap image data

rendered by said rendering means and attributes of the objects; and

determination means for determining a range of the bitmap image data, which is to undergo a predetermined

5   image process, on the basis of the attribute map information generated by said generation means.

22.   The apparatus according to claim 21, wherein the predetermined image process is an image area separation process.

10   23.   The apparatus according to claim 21, wherein the attribute map information includes at least a vector flag and bitmap flag.

24.   The apparatus according to claim 21, wherein the attribute map information is generated in correspondence

15   with two-dimensional coordinate positions of the bitmap image data.

25.   The apparatus according to claim 21, wherein said generation means comprises an attribute map memory for storing the generated attribute map information.

20   26.   The apparatus according to claim 21, wherein when the bitmap image data is managed in units of R, G, and B planes, the attribute map information is managed as an attribute map plane added to the R, G, and B planes.

27.   The apparatus according to claim 21, wherein when

25   R, G, and B data of the bitmap image data are managed in

units of pixels, the attribute map information is managed while being appended to each pixel.

28. The apparatus according to claim 21, wherein when the bitmap image data is managed in units of R, G, and B planes, the attribute map information is managed while being appended to pixels of one or a plurality of the R, G, and B planes.

29. The apparatus according to claim 21, wherein when R, G, and B data of the bitmap image data are managed in units of pixels, the attribute map information is managed while being appended to color information of one or a plurality of R, G, and B data in units of pixels.

30. The apparatus according to claim 21, wherein said determination means comprises image area separation processing means for performing an image area separation process for the bitmap image data.

31. The apparatus according to claim 21, wherein said determination means updates the attribute map information on the basis of a processing result of said image area separation processing means.

32. An image processing method comprising:

the attribute information generation step of generating attribute information indicating an attribute of an image in correspondence with a command that represents the image;

the bitmap data generation step of generating
bitmap image data by rendering the command; and

the image processing step of performing an image
process of the bitmap image data in accordance with the

5   attribute information,

wherein attribute information at an overlapping
position of first and second images in accordance with
the command is determined in accordance with attribute
information of the first image and attribute information

10 of the second image.

33.   A storage medium which stores program codes which
are loaded and executed by a computer to make the
computer function as an image processing apparatus, said
program codes storing:

15 a program code of the attribute information
generation step of generating attribute information
indicating an attribute of an image in correspondence
with a command that represents the image;

a program code of the bitmap data generation step

20 of generating bitmap image data by rendering the
command; and

a program code of the image processing step of
performing an image process of the bitmap image data in
accordance with the attribute information,

25 wherein attribute information at an overlapping
position of first and second images in accordance with

the command is determined in accordance with attribute
information of the first image and attribute information
of the second image.

34.   An image processing method comprising:

5   the discrimination step of discriminating a type
of object to be rendered;

the determination step of determining the
presence/absence of synthesis of the discriminated
object;

10   the synthesis step of synthesizing an object and
information of the type of object in accordance with the
determination result; and

the processing step of appending information
indicating the type of synthesized object to a rendering

15   result obtained by rendering the object to be rendered
in units of pixels.

35.   A storage medium which stores program codes which
are loaded and executed by a computer to make the
computer function as an image processing apparatus, said

20   program codes storing:

a program code of the discrimination step of
discriminating a type of object to be rendered;

a program code of the determination step of
determining the presence/absence of synthesis of the

25   discriminated object;

a program code of the synthesis step of
synthesizing an object and information of the type of
object in accordance with the determination result; and

a program code of the processing step of appending
5   information indicating the type of synthesized object to
a rendering result obtained by rendering the object to
be rendered in units of pixels.

36.   An image processing method for processing and
outputting input image data, comprising:

10   the input step of inputting image data composed of
a plurality of objects;

the rendering step of rendering the objects into
bitmap image data;

the generation step of generating attribute map
15   information indicating a configuration of the bitmap
image data on the basis of the bitmap image data
rendered in the rendering step and attributes of the
objects; and

the determination step of determining a range of
20   the bitmap image data, which is to undergo a
predetermined image process, on the basis of the
attribute map information generated in the generation
step.

37.   A computer readable memory that stores program
25   codes of an image process for processing and outputting
input image data, comprising:

a program code of the input step of inputting

image data composed of a plurality of objects;

a program code of the rendering step of rendering

the objects into bitmap image data;

5   a program code of the generation step of

generating attribute map information indicating a

configuration of the bitmap image data on the basis of

the bitmap image data rendered in the rendering step and

attributes of the objects; and

10   a program code of the determination step of

determining a range of the bitmap image data, which is

to undergo a predetermined image process, on the basis

of the attribute map information generated in the

generation step.